

# Phase I Report



Refuse Disposal Permit Application  
R.B. Baker & Sons, Inc. Rubble Landfill No. 2  
Queenstown, Maryland

## PREPARED BY

Century Engineering, Inc  
550 Bay Road  
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## PREPARED FOR

R.B. Baker & Sons, Inc.  
501 4H Park Rd  
Queenstown, MD 21658

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Appendix C

C-1 COMAR 26.04.07.06 – Sanitary Landfills – Municipal Landfills – Phase I Report

C-2 COMAR 26.04.07.14 – Sanitary Landfills – Rubble Landfills – Phase I

## Report Certification Page

“I, Alex Schmidt, do hereby state to the best of my professional ability that the information contained in the plans, specifications and reports have been prepared in accordance with accepted environmental practices, is true and correct, and is in conformance with Maryland Department of the Environment (MDE) and COMAR Requirements.



\_\_\_\_\_  
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\_\_\_\_\_  
August 16, 2022

Date

## Executive Summary

RB Baker & Sons, Inc. currently operates the RB Baker Rubble Landfill No. 2, a lined 12-acre rubble landfill on the east side of 4H Park Road, near Queenstown, in Queen Anne's County, Maryland. The RB Baker Rubble Landfill No. 2 is near maximum capacity. The permit process for a new landfill, RB Baker Rubble Landfill No. 3, is currently underway, however the new landfill will not be operational in time to transition directly from existing RB Baker Landfill No. 2 to RB Baker Landfill No. 3. To continue to meet the rubble disposal needs of area contractors, citizens, and Queen Anne's County, RB Baker & Sons, Inc. is proposing to a vertical expansion of RB Baker Rubble Landfill No. 2.

To initiate the permitting process for this vertical expansion, RB Baker & Sons, Inc. is hereby submitting the required Phase I report and Refuse Disposal Permit Application. The purpose of this application is to provide landfill capacity until the RB Baker Rubble Landfill No. 3 becomes operational. Once the requested capacity included in this vertical expansion request is filled, RB Baker Landfill No. 2 will be phased out and capped.

The RB Baker Landfill No. 2 will continue to accept the same material as currently landfilled in the active cell. Additional landfilling associated with the vertical expansion is anticipated to be approximately 15,000 tons (T) total.

All activities associated with the vertical expansion will remain contained to the currently permitted RB Baker Landfill No. 2 footprint. All landfilling will occur within the limits of the currently approved cells. No change to the landfill liner or leachate collection system are proposed.

The geology of the site indicates that there is a surficial aquifer approximately 2 - 40 feet thick that is underlain by several aquitards. The aquitards severely limit the movement of any groundwater into aquifers below the surficial aquifer. Monitoring results of existing landfilling activities indicate that the rubble landfilling operations have minimal impact on the quality of the existing groundwater within the surficial aquifer.

## 1.0 Project Description

RB Baker & Sons, Inc. currently operates the RB Baker Rubble Landfill No. 2, a lined 12-acre rubble landfill on the east side of 4H Park Road, near Queenstown, in Queen Anne's County, Maryland. The RB Baker Rubble Landfill No. 2 is near maximum capacity. The permit process for a new landfill, RB Baker Rubble Landfill No. 3, is currently underway, however the new landfill will not be operational in time to transition directly from existing RB Baker Landfill No. 2 to RB Baker Landfill No. 3. To continue to meet the rubble disposal needs of area contractors, citizens, and Queen Anne's County, RB Baker & Sons, Inc. is proposing to a vertical expansion of RB Baker Rubble Landfill No. 2.

To initiate the permitting process for this expansion, RB Baker & Sons, Inc. is hereby submitting the required Phase I report and Refuse Disposal Permit Application (see Appendix B-1) for the vertical expansion of RB Baker & Sons, Inc. Landfill No. 2. The purpose of this application is to provide landfill capacity for the proper management and disposal of land clearing debris, construction debris, and demolition debris. The vertical expansion request will increase the top elevation of the landfill from elevation 120 AMSL to 140 AMSL.

## 2.0 Description of Proposed Activity

### 2.1 Type of Landfill

The proposal is to vertically expand a rubble landfill. The type of waste accepted is discussed in section 2.4 of this report. The existing landfill includes a synthetic liner and leachate collection system that will not be altered by this expansion. The operation of the landfill will continue to be integrated into the existing operations, which include recycling and mulch creation. Existing infrastructure, such as an office, scale house, and equipment storage buildings already exist on site and will service the vertical expansion.

### 2.2 Area Served

It is anticipated that the vertical expansion will serve public and private clients in Queen Anne's County but has the potential to serve clients from the state of Maryland, Virginia, New Jersey, and Delaware. Existing landfill operations indicate that the primary users will be local contractors, homeowners, and Queen Anne's County. The facility is currently a part of the Queen Anne's County Solid Waste Management Plan.

### 2.3 Estimated Waste Capacity

Based upon landfilling rates over recent years at the active Landfill No. 2 cell it is estimated the proposed landfill will provide 15,000 T of capacity. This capacity should be landfilled within the first year of operation.

### 2.4 Type of Waste Accepted

The vertical expansion will accept land clearing debris, such as: stumps, branches, and leaves; construction and demolition debris, such as: concrete rubble, structural steel, lumber and brick/block. The landfill will not accept any hazardous waste, industrial waste or by products, or asbestos. The landfill is not proposing any change to materials accepted and landfilled from what

is currently being accepted and landfilled. Materials that are able to be economically recycled will be extracted from landfill waste and processed separately.

Acceptable demolition includes debris associated with razing of buildings, roads, bridges, and other structures includes structural steel, concrete, bricks (excluding refractory type), lumber, plaster and plasterboard, insulation material, cement, shingles and roofing material, floor and wall tile, asphalt, pipes and wires, and other items physically attached to the structure, including appliances if they have been or will be compacted to their smallest practical volume.

Unacceptable demolition debris includes industrial waste or byproducts, any waste materials contained within a structure or on the grounds of the structure being demolished that are not physically part of the structure, or which are comprised of or contain material that pose an undue risk to public health or the environment.

Acceptable construction debris is structural building materials including cement, concrete, bricks (excluding refractory type), lumber, plaster and plasterboard, insulation, shingles, floor, wall and ceiling tile, pipes, glass, wires, carpet, wallpaper, roofing, felt, or other structural fabrics. Paper or cardboard packaging, spacing, or building materials, provided that they do not exceed 10 percent by volume of the waste, may be accepted at the rubble landfill. Paint containers, caulk containers, or glaze containers are acceptable, provided that they are empty, and any residual material which is dried before acceptance at the rubble fill, and further provided that this waste category does not exceed 1 percent by volume of the waste accepted at the rubble landfill.

Unacceptable construction debris includes commercial, domestic, or industrial wastes or byproducts, paint, tar or tar containers, caulking compounds, glazing compounds, paint thinner or other solvents or their containers, creosote or other preservatives or their containers, tile, paneling, or carpet cement or other adhesives, and other solid waste which may contain an unacceptable waste or substance as may be determined by the approving authority to be unacceptable.

## 3.0 Description of Site

### 3.1 Site Background

The vertical expansion is located within the footprint of the existing Landfill No. 2 site in Queen Anne's County, east of Maryland Route 18 (4H Park Road) and west of US301. A site location map has been provided in Appendix A-1. The site is currently an active landfill area.

As seen on the site topography the area is currently structured as a landfill, with ponds, ditches, berms, and landfill cells. In the lower elevations the vegetation consists of brush and phragmites. On non-landfill slopes is a mix of tree saplings, woody brush, and grasses. There is a wooded area located along the east property boundaries. The south and west property boundaries are roadways and the north property boundary abuts a small industrial park under the same ownership as the landfill. Surface water runoff that is generated from areas outside of the landfill cell flows from north to south, into several large ponds south of the landfill. These ponds contain runoff from small storm events on site, and only overflow during larger storm events. Stormwater runoff that is not contained within the ponds flows to an unnamed tributary that flows south, eventually entering the Wye River and ultimately the Chesapeake Bay.

The site U.S.G.S. 7.5 Minute Quadrangle Map can be found in Appendix A-2. The site topographic map can be found in Appendix A-3. The site is displayed at a scale of 1" = 50' and depicts property boundaries, on-site buildings and structures, and pertinent surficial features. The site does not have any springs, seeps, rock outcrops, sink holes, water wells, buried or overhead power transmission lines, or utility pipelines.

### 3.2 Area Land-Use and Zoning

#### 3.2.1 Land-Use

The land use/land cover data was obtained from the Maryland Department of Planning (MDP) and is dated 2010. The existing landfill site is classified as "Other Developed Lands". Land uses within ½ mile of the proposed landfill include low density residential, cropland, deciduous forest, and water.

The following land use classifications as defined by MDP were mapped within ½ mile of the site:

Low-density residential – Detached single-family/duplex dwelling units, yards and associated areas. Areas of more than 90 percent single-family/duplex dwelling units, with lot sizes of less than five acres but at least one-half acre (.2 dwelling units/acre to 2 dwelling units/acre).

Extractive – Surface mining operations, including sand and gravel pits, quarries, coal surface mines, and deep coal mines. Status of activity (active vs. abandoned) is not distinguished.

Cropland – Field crops and forage crops.

Deciduous forest – Forested areas in which trees characteristically lose their leaves at the end of the growing season. Included are such species as oak, hickory, aspen, sycamore, birch, yellow poplar, elm, maple, and cypress. Note that forest classifications may not be reliable as to type (deciduous versus evergreen).

Water – Rivers, waterways, reservoirs, ponds, bays, estuaries, and ocean.

Large lot subdivision (agriculture) – Residential subdivisions with lot sizes of less than 20 acres but at least 5 acres, with a dominant land cover of open fields or pasture.

#### 3.2.2 Zoning

Zoning in the area within ½ mile of the proposed landfill expansion location is depicted on the Zoning Map in Appendix A-4.

The zoning data was obtained from Queen Anne's County in 2022. The existing RB Baker site is zoned Agricultural and Suburban Industrial. Other zoning areas within ½ mile of the site include Country Side.

### 3.3 Site Soils

The site soil map can be found in Appendix A-5. The soil map is from the Natural Resources Conservation Service web soil survey, dated August 27, 2021. The soils in the footprint of the vertical expansion are comprised of Udorthents – UbB (Hydrologic Soil Group B).

**Soils Within Project Limits**

<b>Symbol</b>	<b>Soil Name</b>	<b>Soil Group</b>	<b>K-Factor</b>
OtA	Othello silt loam, 0 to 2 percent slopes	C	0.49
UbB	Udortents, borrow area, 0 to 5 percent slopes	B	0.28

The Udorthents complex consist of moderately well drained to excessively well drained soils that have been disturbed by cutting or filling such as from mining activities. The soil consists of moderately textured soil material with some small areas of medium textured material.

**3.4 Site Geology**

The landfill is located in the coastal plain physiographic province. The coastal plain is characterized as a series of unconsolidated formations which overlay a southeasterly dipping crystalline basement. The Cretaceous to Miocene formations slope towards the southeast, thickening as they do so. Younger Pliocene to Pleistocene formations form a horizontal cap over the beveled outcrops of the older formations on the Eastern Shore of Maryland and Delaware. Refer to the Regional Cross-Section in Appendix A-7 for additional information.

The RB Baker & Sons, Inc Landfill No. 2 lies on the Pliocene Pensauken Formation, a member of the Columbia Group. This formation is composed of lowland deposits consisting of orange colored sands and occasional lenses of silty clay. Cobble sized material is sometimes found at the base of the formation. The sands generally consist of iron-stained silicate and arkosic minerals.

Gamma Radiation Logs were completed near the site by Maryland Geological Society. Gamma Radiation Logs are a method of measuring naturally occurring gamma radiation to characterize the rock or sediment in a borehole or drill hole and develop an accurate representation of geologic formations. The results also allow approximate mapping of aquifers, which contain groundwater and are a potential source of drinking water, and aquitards, which form impermeable or low permeable dividers between aquifers. The logs indicate that the surficial aquifer (Columbia aquifer) is 2 to 40 feet thick. Beneath the surficial aquifer is the Calvert Formation, which is 80 to 100 feet thick, and contains the unconfined Calvert aquifer overlying the Calvert aquitard,. The Nanjemoy aquitard Formation is beneath the Calvert aquifer and separates the Calvert from the much deeper Aquia Formation and Aquia aquifer. Logs can be found in Appendix A-7

The Calvert Formation consists of tan to dark brown, green or blue silty sand to clay material. Fossil beds are numerous and portions contain diatomaceous clays. The Calvert Formation under the site consists of tan to dark green silty sand. The Gamma Logs performed by Maryland Geological Society indicate that the base of the Calvert Formation is approximately at elevation -100 where it overlies the Eocene Nanjemoy Formation.

The Nanjemoy Formation consists of light to dark green glauconitic silty clay with some minor quantities of sand. The base of the formation beneath the site is estimated to be at elevation -180 to -200 where it overlies the Paleocene Aquia Formation.

The Aquia Formation consists of coarse to fine grain quartz sand. Glauconite, goethite pellets and limonite are common in the formation. Some areas are indurated by calcite. The Aquia Formation

is the first water bearing formation below the Columbia Aquifer at the site. The base of the Aquia is at approximately elevation -440 where it overlies the Cretaceous Monmouth Formation.

The Monmouth, Matawan and Magothy Formations are upper Cretaceous water bearing formations which overlie the Lower Cretaceous Potomac Group. The Potomac Group includes the Patapsco, Arundel and Patuxent Formations. The Patapsco and Patuxent Formations contain aquifers but the Arundel Clay Formation is hydraulically classified as an aquiclude. These Formations overlie the crystalline basement complex consisting of early Paleozoic to Late Precambrian gabbros and diorites.

The surficial Columbia and upper Calvert Formation aquifers are the only aquifers susceptible to any potential influence from the proposed RB Baker and Sons Landfill No. 2. Groundwater quality monitoring of existing rubble landfilling activities indicates that the rubble landfill will have minimal impact, if any, on the quality of groundwater within the surficial aquifer.

### 3.5 Critical Area and Flood Plain

The Critical Area is a buffer that encompasses all land within 1,000 feet of the Mean High Water Line or tidal waters or the landward edge of tidal wetlands and all waters of and lands under the Chesapeake Bay and its tributaries. The Critical Area Law was created to minimize adverse impacts on water quality that result from pollutants that are discharged from structures or conveyances and conserve fish, wildlife, and plant habitat in the Chesapeake Bay and its tributaries. The Wye River, which is the first named receiving waterway downstream of the site, is protected by a Critical Area buffer.

The proposed vertical expansion is not located within the Critical Area. The proposed vertical expansion is a minimum of 2,240 feet from the closest critical area, however the closest critical area that the site drains to is approximately 1.3 miles away. Furthermore, the vertical expansion will be entirely contained within the footprint of the active landfill, meaning any runoff from the vertical expansion will be captured in the leachate collection system and will not drain to any surface waters.

The proposed rubble landfill vertical expansion is not located within a flood zone. Flood zones are geographic areas that FEMA has defined according to varying levels of flood risk and type of flooding. These zones are depicted on the published Flood Insurance Rate Map (FIRM) and can be found in Appendix A-8.

Moderate and Minimal Risk Areas are shown on the FIRM map provided. These areas are labeled Zone B (shaded) or Moderate Risk and Zone C (unshaded) or Minimal Risk. The areas of Moderate Risk are located to the west of Joseph Boyles Road, over 500 feet away. The proposed rubble landfill is located in Zone C a Minimal Risk area.

Moderate risk areas are within the 0.2-percent-annual-chance floodplain (500 year event), areas of 1-percent-annual-chance flooding (100 year event) where average depths are less than 1 foot, areas of 1-percent-annual-chance flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 1-percent-annual-chance flood by a levee. No BFEs or base flood depths are shown within these zones.

Minimal risk areas are outside the 1-percent and 0.2-percent-annual-chance floodplains. No BFEs or base flood depths are shown within these zones.

## **4.0 Conclusion**

RB Baker & Sons, Inc. currently operates a rubble landfill near capacity in Queen Anne's County, Maryland. The landfill is a vital part of waste management within Queen Anne's County and the surrounding area. To continue to meet the needs of the County and the surrounding area, RB Baker & Sons, Inc. is proposing a 20' vertical expansion of the active Landfill No. 2. To initiate the permitting process for this expansion, RB Baker & Sons, Inc. is hereby submitting the required Phase I report and Refuse Disposal Permit Application for the construction and operation of the vertical expansion. The expansion will continue to accept the same materials as are currently being landfilled.

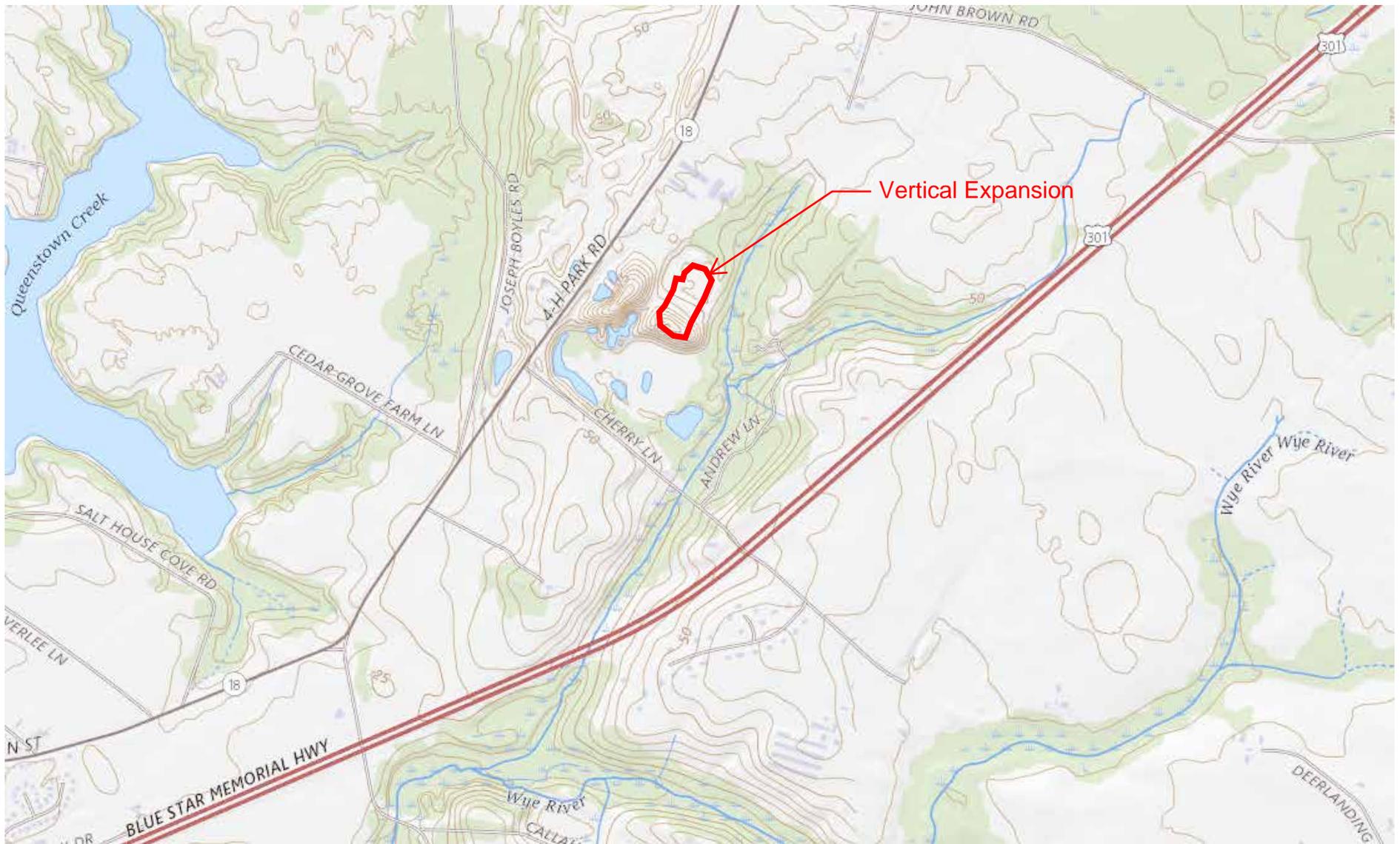
Appendix A-1  
Site Location Map



## Appendix A-2

### U.S.G.S. 7.5 Minute Quadrangle Map

Appendix A-2: USGS Quad Map



Appendix A-3  
Topographic Map

REVISIONS

ADDENDUM

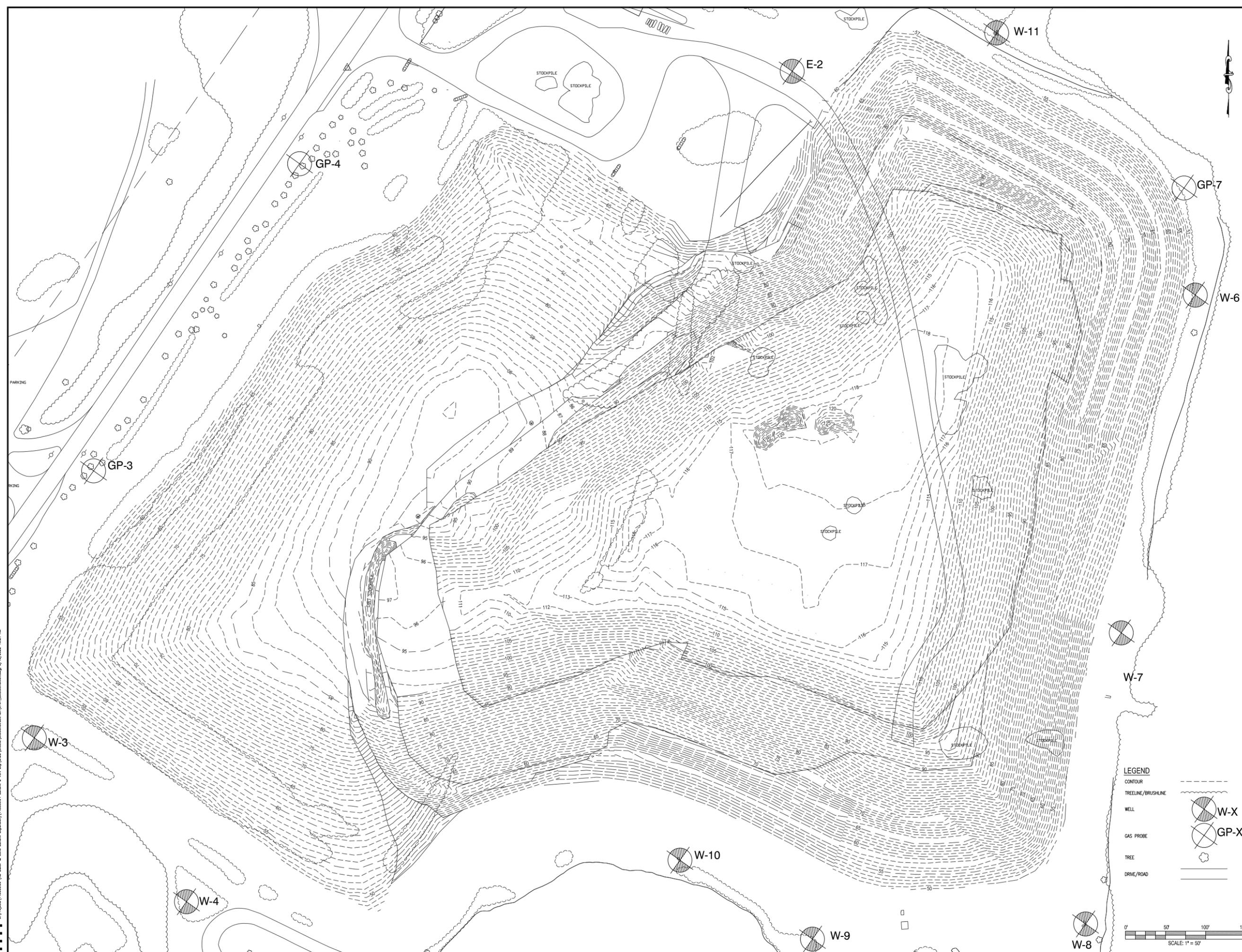
DESCRIPTION	DATE

SEAL

PROJECT: **VERTICAL EXPANSION PHASE II PLANS**  
FOR  
**R.B. BAKER & SONS, INC. RUBBLE LANDFILL NO. 2**  
**R.B. BAKER & SONS, INC.**  
T.P. 51.00-0010.00-004.00 & T.P. 51.00-0011.00-007.00  
FIFTH ELECTION DISTRICT, QUEEN ANNES COUNTY, MARYLAND

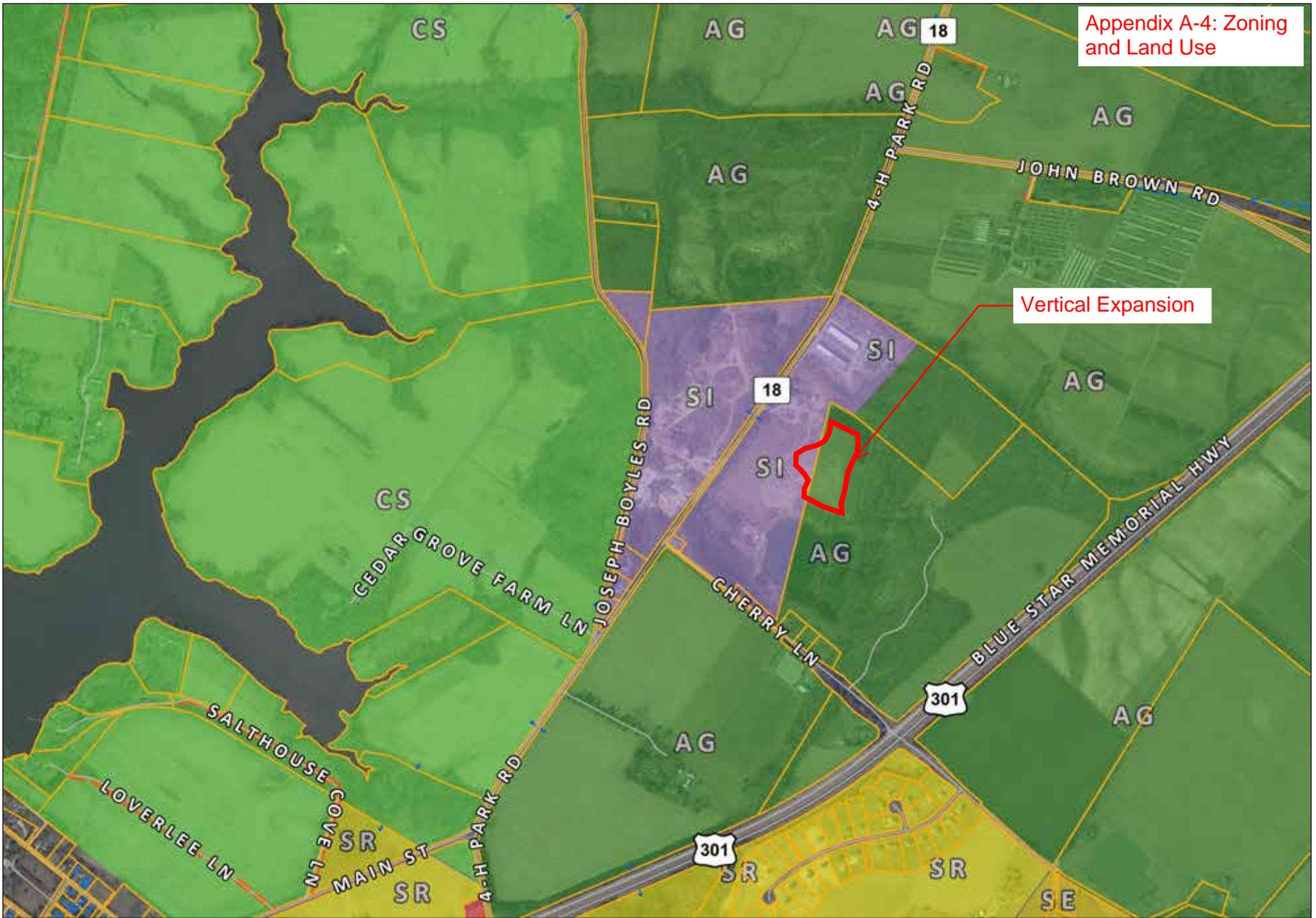
SHEET TITLE  
**EXISTING  
CONDITIONS PLAN  
APPENDIX A-3**

**MDE SUBMISSION**  
MARCH 2022  
DRAWN: **DLD** CHK'D/DESIGNER: **AES**  
SCALE: **1" = 50'** SHEET NO.: **C101**  
PROJECT NO.: **145000.04**



© Project 145000.04 (R.B. Baker & Sons (Local Expansion)) 145000.04 Landfill 2 Vert Exp (DMD) (User) (SiteConstruction) C101\_StaffLocation.mxd, 8/19/2022 10:21 AM  
 THIS DRAWING IS THE PROPERTY OF CENTURY ENGINEERING AND IS PREPARED FOR THE EXCLUSIVE USE OF ITS CLIENTS AT THE LOCATION INDICATED. NO OTHER USE IS AUTHORIZED OR INTENDED.

Appendix A-4  
Zoning and Land Use Map



Appendix A-5  
Soil Map

Hydrologic Soil Group—Queen Anne's County, Maryland  
(Baker Landfill No. 2 Vertical Expansion)



Map Scale: 1:7,730 if printed on A portrait (8.5" x 11") sheet.



## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

#### Soil Rating Polygons

 A  
 A/D  
 B  
 B/D  
 C  
 C/D  
 D  
 Not rated or not available

#### Soil Rating Lines

 A  
 A/D  
 B  
 B/D  
 C  
 C/D  
 D  
 Not rated or not available

#### Soil Rating Points

 A  
 A/D  
 B  
 B/D

 C  
 C/D  
 D  
 Not rated or not available

### Water Features

 Streams and Canals

### Transportation

 Rails  
 Interstate Highways  
 US Routes  
 Major Roads  
 Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL:  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Queen Anne's County, Maryland  
 Survey Area Data: Version 18, Aug 27, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 23, 2020—Nov 20, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
LO	Longmarsh and Indiantown soils, frequently flooded	B/D	3.6	2.9%
MkB	Matapeake silt loam, 2 to 5 percent slopes	C	5.7	4.5%
NsA	Nassawango silt loam, 0 to 2 percent slopes	C	5.2	4.1%
UbB	Udorthents, borrow area, 0 to 5 percent slopes	C	64.3	51.4%
UsB	Unicorn-Sassafras loams, 2 to 5 percent slopes	B	16.1	12.8%
UsC	Unicorn-Sassafras loams, 5 to 10 percent slopes	B	1.2	1.0%
W	Water		10.8	8.6%
WhA	Whitemarsh silt loam, 0 to 2 percent slopes	C/D	18.4	14.7%
<b>Totals for Area of Interest</b>			<b>125.2</b>	<b>100.0%</b>

## Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

## Rating Options

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff:* None Specified

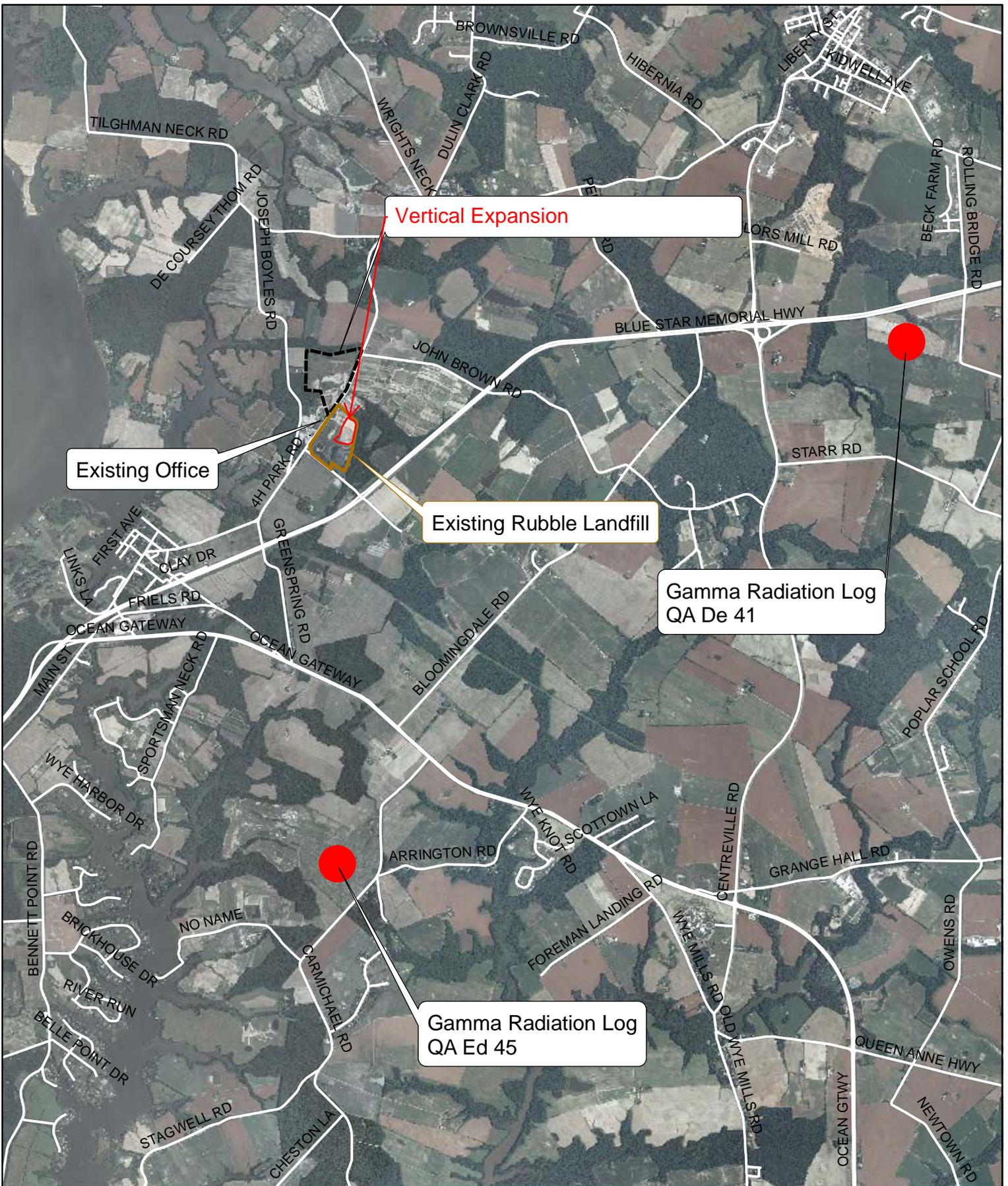
*Tie-break Rule:* Higher

Appendix A-6  
Critical Area

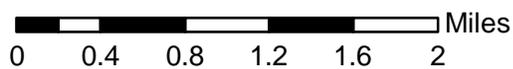
Appendix A-6: Critical Area Location



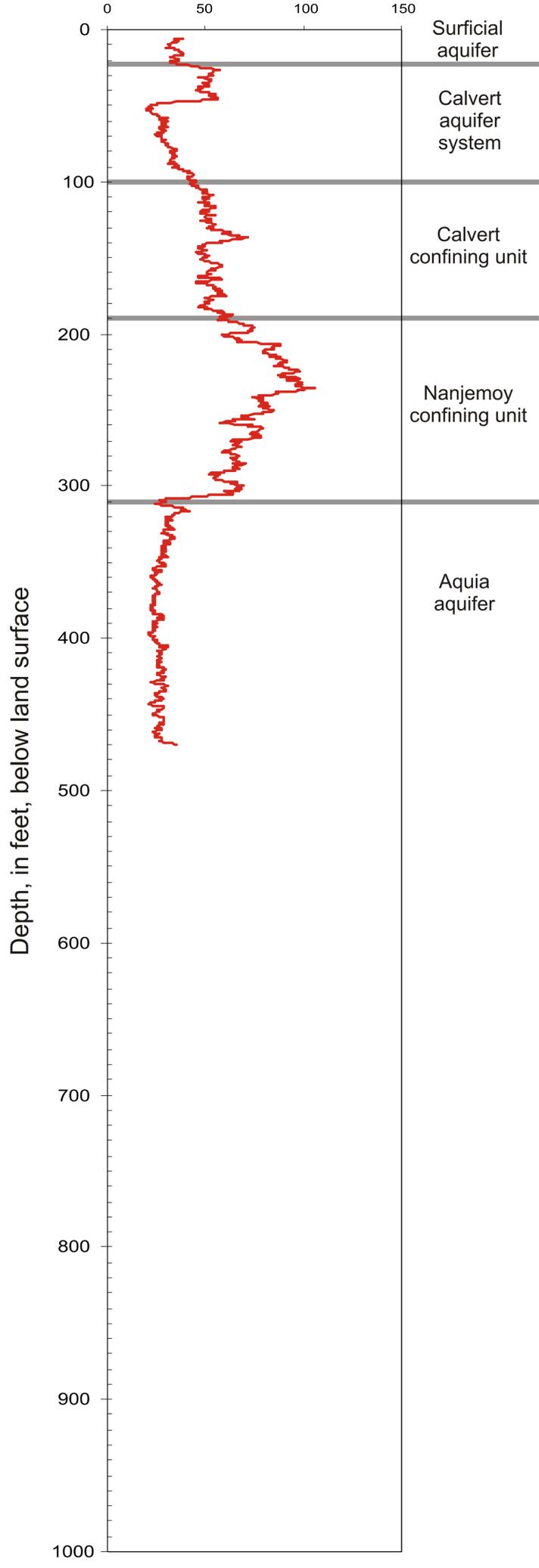
Appendix A-7  
Geological Map and Information



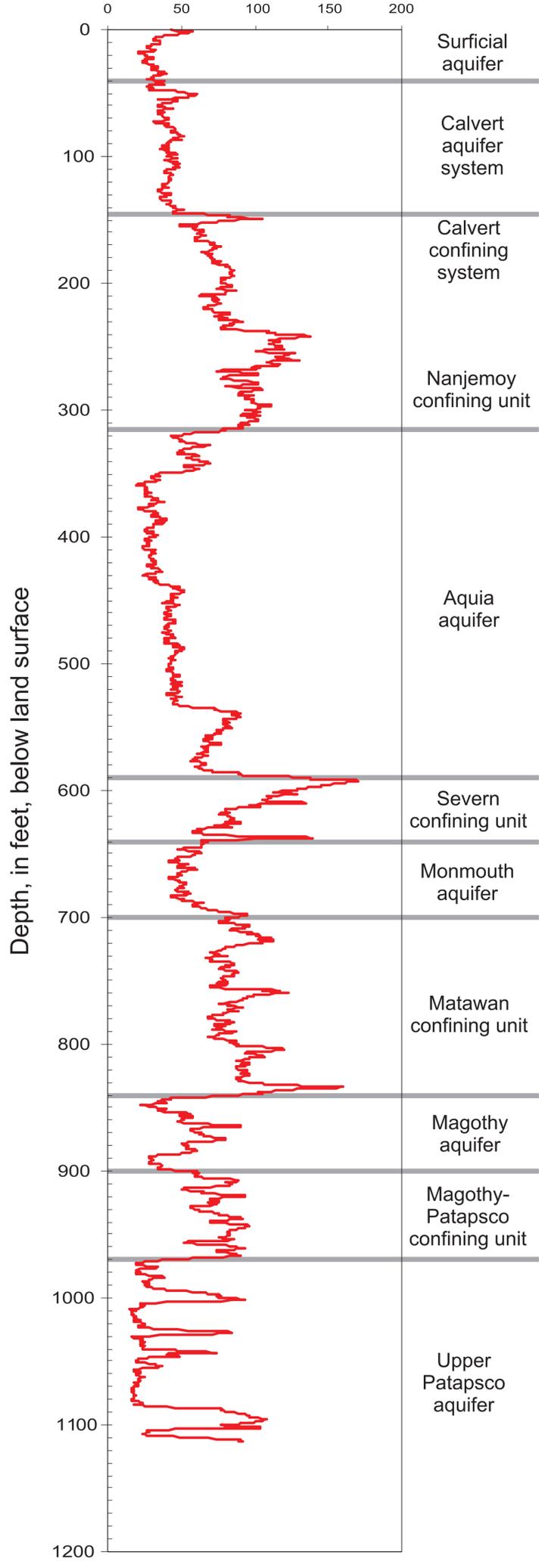
**RB Baker & Sons, Inc. Rubble Landfill Permit Application  
Phase 1 Report  
Geological Gamma Radiation Logs**



Well No.	QA De 41
Altitude	55 ft
Log type	Gamma, cps



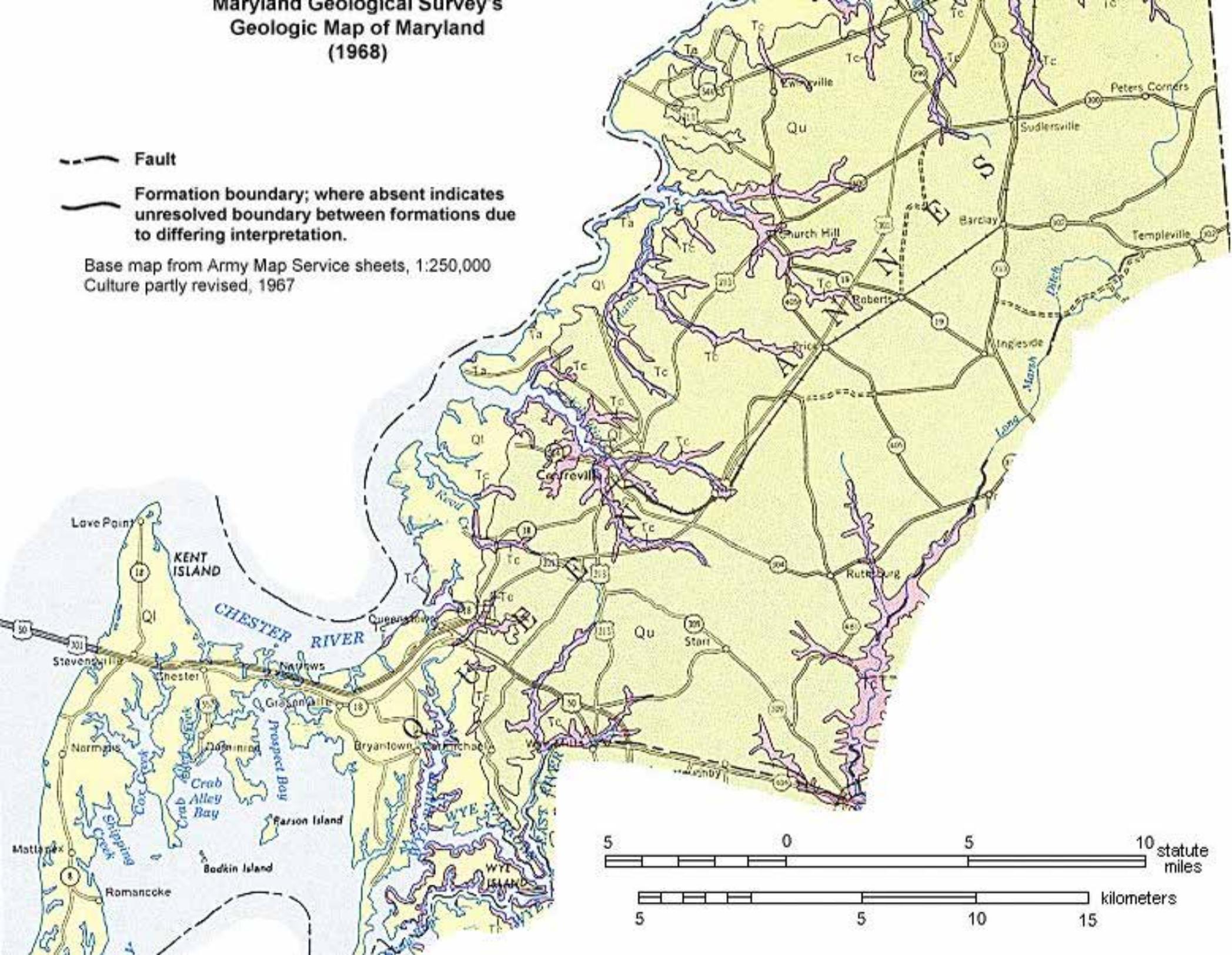
Well No.	QA Ed 45
Altitude	62 ft
Log type	Gamma, cps



# Maryland Geological Survey's Geologic Map of Maryland (1968)

-  Fault
-  Formation boundary; where absent indicates unresolved boundary between formations due to differing interpretation.

Base map from Army Map Service sheets, 1:250,000  
Culture partly revised, 1967



Appendix A-8  
Flood Plain

**NOTES TO USERS**

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **foodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

**Coastal Base Flood Elevations** shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **foodways** were computed at cross sections and interpolated between cross sections. The foodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM), Zone 18. Horizontal datum was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/> or contact the National Geodetic Survey at the following address:

NGS Information Services  
NOAA, NNGS12  
National Geodetic Survey  
SSMC-3, #9202  
1215 East-West Highway  
Silver Spring, Maryland 20910-3282  
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov/>.

**BASE MAP SOURCE:** Base map information shown on this FIRM was provided in digital format. Streamline files and road centerlines were supplied by Queen Anne's County Department of Land Use, Growth Management and Environment. Political boundaries were obtained from the Maryland State Highway Administration and Queen Anne's County. Adjustments were made to specific base map features to align them to 2007 National Agriculture Imagery Program (NAIP) ortho imagery mosaic, 2003-2006 LIDAR data derived from the National Oceanic and Atmospheric Administration (NOAA) were utilized to delineate floodplain boundaries.

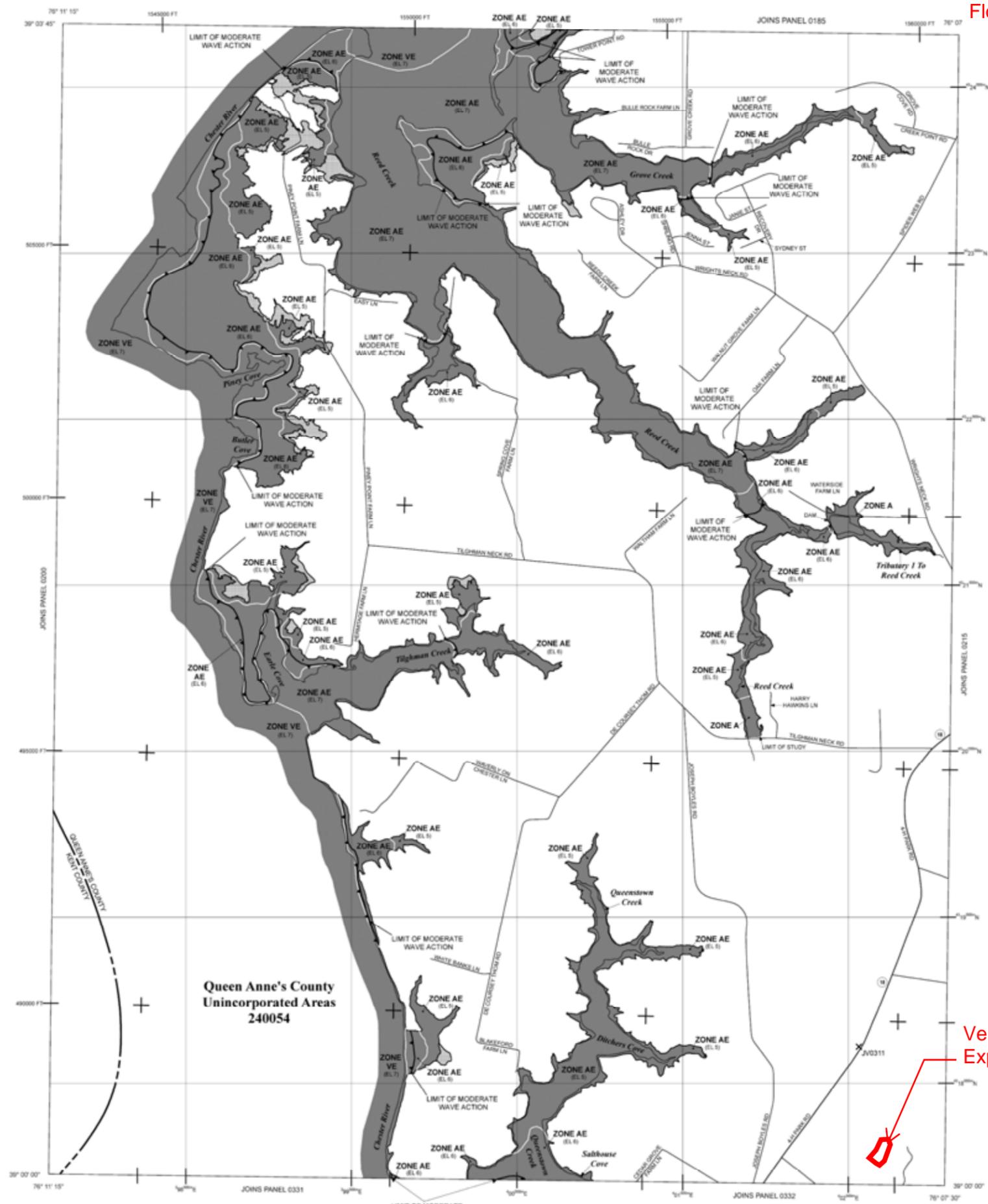
**Corporate limits** shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels, community map repository addresses, and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

The AE Zone category has been divided by a **Limit of Moderate Wave Action (LMWA)**. The LMWA represents the approximate landward limit of the 1.5-foot breaking wave. The effects of wave hazards between the VE Zone and the LMWA (or between the shoreline and the LMWA for areas where VE Zones are not identified) will be similar to, but less severe than those in the VE Zone.

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at <http://map.fema.gov/>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions about this map**, how to order products or the National Flood Insurance Program in general, please call the **FEMA Map Information eXchange (FMIX)** at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/businessinfo>.



Appendix A-8:  
Flood Map

**LEGEND**

**SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD**

The 1% annual chance flood (25-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AV, A1, A2, A3, A4, A5, A6, A7, A8, A9, A10, A11, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

**ZONE A** No Base Flood Elevations determined.

**ZONE AE** Base Flood Elevations determined.

**ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

**ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on closing terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

**ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently dismantled. Zone AR indicates that the former flood control system is being removed to provide protection from the 1% annual chance or greater flood.

**ZONE AV** Area to be protected from 1% annual chance flood by a Federal Flood protection system under construction; no Base Flood Elevations determined.

**ZONE VE** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

**FLOODWAY AREAS IN ZONE AE**

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

**OTHER FLOOD AREAS**

**ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

**OTHER AREAS**

**ZONE D** Areas determined to be outside the 0.2% annual chance floodplain. Areas in which flood hazards are undetermined, but possible.

**COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS**

**OTHERWISE PROTECTED AREAS (OPAs)**

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary  
0.2% annual chance floodplain boundary  
Floodway boundary  
Zone D boundary  
CBRS and OPA boundary  
Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities  
Limit of Moderate Wave Action Delineation  
Base Flood Elevation line and value, elevation in feet  
Base Flood Elevation value where uniform within zone, elevation in feet

Referenced to the North American Vertical Datum of 1988

Bridge  
Footbridge  
Culvert  
Cross section line  
Transect line

Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)  
1000-meter Universal Transverse Mercator grid values, Zone 18 North  
5000-foot grid ticks: Maryland State Plane coordinate system (SPS) 1983, Lambert Conformal Conic projection  
Bench mark (see explanation in Notes to Users section of this FIRM panel)  
River Mile

**MAP REPOSITORY**  
Refer to listing of Map Repositories on Map Index

**EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP**  
November 5, 2014

**EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL**

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6625.

**MAP SCALE 1" = 1000'**  
0 500 1000 2000 FEET  
0 300 600 METERS

**NATIONAL FLOOD INSURANCE PROGRAM**

**PANEL 0195D**

**FIRM**  
FLOOD INSURANCE RATE MAP

**QUEEN ANNE'S COUNTY, MARYLAND AND INCORPORATED AREAS**

**PANEL 195 OF 475**  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

COMMUNITY: QUEEN ANNE'S COUNTY  
NUMBER: 240054  
DATE: 11/05/14

**MAP NUMBER 24035C0195D**  
**EFFECTIVE DATE NOVEMBER 5, 2014**

Federal Emergency Management Agency

Vertical Expansion

Appendix B-1  
Rubble Landfill Permit Application

# MARYLAND DEPARTMENT OF THE ENVIRONMENT

Land Management Administration • Solid Waste Program  
1800 Washington Boulevard • Suite 605 • Baltimore, Maryland 21230-1719  
410-537-3318 • 800-633-6101 x3318 • <http://www.mde.state.md.us>

For office use only

For office use only

## Refuse Disposal Permit Application

Authority: Title 9, Environment Article, Annotated Code of Maryland, and Code of Maryland Regulations (COMAR) 26.04.07  
Municipal landfills also see 40 CFR Part 258 and EPA guidance for additional requirements.

Application for:  New Permit  Renewal Permit

Existing Permit No. 2018 - WRF - 0622 Issued Date: \_\_\_/\_\_\_/\_\_\_ Expiration Date: 7 / 7 / 2023

Applicant's Legal Name: R.B. Baker & Sons, Inc.

Applicant's Status:  Individual  Corporation  Government  Other:

Federal Employer Identification No.: 52-0621439

Maryland State Department of Assessments and Taxation (SDAT) ID No.: 17736138

Please note that a business/entity must be registered to do business in Maryland before a permit can be issued. The business or entity's information provided in this application must match the information in the SDAT register.

Proof of workers' compensation coverage is required under § 1-202 of the Environment Article. Please provide one of the following:

- (1) A copy of a Certificate of Compliance issued by the Maryland Workers' Compensation Commission; or
- (2) Workers' Compensation Insurance Policy/Binder Number: WCA 2009938-17

Applicant's Mailing Address: 501 4H Park Road City: Queenstown State: MD Zip Code: 21658

Applicant's Telephone No. (410) 827 - 8831

Facsimile No.: (410) 827 - 9504

Emergency Contact Name & Title: Ted Baker, President

Telephone No.: (410) 827 - 7383

Facility/Site Name: R.B. Baker & Sons Landfill No 2 - Vertical Expansion

Facility/Site Address: 501 4H Park Road City: Queenstown State: MD Zip Code: 21658

County: Queen Anne's

Maryland Grid Coordinates: 487, 555 N / 1558, 651 E

County Zoning Map No.: 51

Lot/Parcel No.: 0007 Deed/Liber/Folio No.: 00014/00017

State Legislative District: 36

Local Council / Election District: 1

Bay Tributary Watershed Code: 02130503

Latitude/Longitude (Deg/Min/Sec): 39- 00 -11 / 76- 07 -52

Site Acreage: 115.51

Facility Acreage (Estimated): 12

Type of Solid Waste Acceptance Facility

- |   |  |
|---|--|
| <input type="checkbox"/> Municipal Landfill <sup>1</sup>            | <input type="checkbox"/> Incinerator <sup>1,2</sup>                            |
| <input checked="" type="checkbox"/> Rubble Landfill <sup>1,2</sup>  | <input type="checkbox"/> Transfer Station <sup>1</sup>                         |
| <input type="checkbox"/> Industrial Landfill <sup>1</sup>           | <input type="checkbox"/> Processing Facility <sup>2</sup>                      |
| <input type="checkbox"/> Land Clearing Debris Landfill <sup>1</sup> | <input type="checkbox"/> Processing Facility & Transfer Station <sup>1,2</sup> |

Notes: 1. Financial Security is required for a privately owned facility.

2. Air Quality Permit may be required.

3. Groundwater Discharge Permit may be required.

Proposed Days & Hours of Operation: Monday - Saturday 7 am- 5 pm

Provide a brief description of solid waste handling and other activities to be conducted at this facility:

This facility will provide the proper management and disposal of construction debris.

If available, attach the following documentation required for permit issuance:

- A written statement from the County in which the proposed facility is to be located, demonstrating that the proposed facility meets all applicable County zoning and land use requirements and is in conformity with the County Solid Waste Management Plan, in accordance with §9-210(a)(3) of the Environment Article.
- For an incinerator, a written statement from the County where the proposed facility is to be located, demonstrating that the County has an approved Recycling Plan in accordance with §9-204.1 and §9-505 of the Environment Article.

For a rubble landfill, a written statement from the County in which the proposed facility is to be located, demonstrating that the County has specified in the County Solid Waste Plan the types of waste that may be disposed of in the facility, in accordance with §9-210(c) of the Environment Article.

Provide the estimated amount of solid waste to be accepted in Tons (T) or Cubic Yards (CY) from the following facilities and sources:

**A. Intermediate Facilities:**

Processing Facilities \_\_\_\_\_  
 Transfer Stations 1,000 Tons  
 Incinerators \_\_\_\_\_

**B. Origin Of Waste By Region:**

Within Jurisdiction 15,000 Tons  
 Out-of-County in Maryland 7,000 Tons  
 Out-of-State (Specify Name) \_\_\_\_\_

Please indicate the estimated amount of solid waste in Tons (T) or Cubic Yards (CY) to be accepted at this facility. This list will be used to determine the type of permit and the list of acceptable materials that will be allowed under the permit for which you are applying.

Type of Waste	1 <sup>st</sup> Year (units)	5 <sup>th</sup> Year (units)
<b>Residential</b> (household refuse, domestic waste, garbage, etc.)		
<b>Commercial</b> (waste from businesses, stores, offices, etc.)		
<b>Industrial</b> (non-hazardous sludge, dust, off-spec products, etc. from industrial or manufacturing operations or processes)		
<b>Construction and Demolition</b> (lumber, masonry, drywall, etc.)	22,000 Tons	N/A
<b>Land Clearing Debris</b> (stumps, limbs, leaves, earthen material, etc.)		
<b>Agricultural</b> (crop residue, manure, unprocessed materials, etc.)		
<b>Institutional</b> (non-hazardous waste from schools, hospitals, etc.)		
<b>Special Medical Waste</b> (infectious waste from hospitals, doctor's offices, research labs, etc.)		
<b>Animal Carcasses</b> (road kills, farm animals, etc.)		
<b>Bulky Waste</b> (appliances, furniture, etc.)		
<b>Litter</b> (street sweepings, municipal wastebaskets, etc.)		
<b>Scrap Tires</b> (automobiles, trucks, etc.) - Requires a separate license for handling or managing tires.		
<b>Sewage Sludge or Septage</b> - Requires separate permit for sewage sludge utilization.		
<b>Water Treatment Plant Sludge</b> (alum precipitate, etc.)		
<b>Hazardous Waste</b> (from chemical plants, gas stations, etc.)		
<b>Asbestos</b> (shingles, insulation, etc.) - Requires special training and handling		
<b>Incinerator Ash</b> (from incinerators, waste-to-energy incinerators, special medical waste incinerators, boilers, etc.)		
<b>Fly Ash</b> (pollution abatement equipment dusts & bottom ash from coal fired electric generating plants)		
<b>Other</b> (list):		
<b>Total</b>	22,000 Tons	N/A

By signing this form, I the applicant or duly authorized representative, do solemnly affirm under the penalties of perjury that the contents of this application are true to the best of my knowledge, information, and belief. I hereby authorize the representatives of the Department to have access to the site of the proposed facility for inspection and to records relating to this application at any reasonable time. I acknowledge that depending on the type of facility applied for, other permits or approvals may be required.

  
 \_\_\_\_\_  
 Signature of Applicant  
 Ted Baker  
 Applicant's Name (Print)

December 17, 2021  
 \_\_\_\_\_  
 Date  
 President  
 \_\_\_\_\_  
 Title

**Privacy Act Notice:** This Notice is provided pursuant to the Federal Privacy Act of 1974, 5 U.S.C. §552 a. Disclosure of your Social Security Number or Federal Employer Identification Number on this application is mandatory pursuant to the provisions of §1-203 (2003), Environment Article, Annotated Code of Maryland, which requires the Maryland Department of the Environment to verify that an applicant for a permit has paid all undisputed taxes and unemployment insurance. Social Security or Federal Employer Identification Numbers will not be used for any purposes other than those described in this Notice.

Appendix C-1  
COMAR 26.04.07.06

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26.04.07.06

## **.06 Sanitary Landfills — Municipal Landfills — Phase I Report.**

A. Phase I Report Required. Twelve copies of a preliminary (Phase I) report shall be prepared and submitted along with the request for a permit.

B. Contents of Phase I Report. At a minimum, the Phase I report shall include a:

(1) Completed and signed application form referenced in Regulation .05B of this chapter;

(2) Current U.S.G.S. 7.5 minute quadrangle map with the proposed site outlined;

(3) Current topographic map, which is an accurate depiction of the site at the time of application, at a scale not smaller than 1 inch equals 200 feet, which depicts the property boundaries, on-site buildings and structures, and pertinent surficial features including but not limited to:

(a) Springs,

(b) Seeps,

(c) Streams,

(d) Rock outcrops,

(e) Sink holes,

(f) Surface impoundments,

(g) Water wells,

(h) Forested areas, and

(i) The location of any buried or overhead power transmission lines, utility pipelines, or storage tanks on the property;

(4) Map which depicts the surrounding zoning and land use within 1/2 mile of the site boundaries;

(5) Map showing the distribution of the soils at the site;

(6) Narrative description of the soils at the site;

(7) Map showing the geology at the site based on available data;

(8) Narrative description of the geology at the site based on available data;

(9) Description of the proposed activity including:

(a) Type of facility;

(b) Area served;

(c) Capacity; and

(d) Types of waste accepted.

C. Phase I Report Review.

(1) Following receipt of the specified number of copies of the required information, the Department shall distribute one copy to each of the following:

(a) Chief executive officer or the governing body, or both, of a county or municipality in which the activity is proposed;

(b) Local operating agency responsible for solid waste management;

(c) Local health official;

(d) Secretary, Department of Natural Resources;

(e) Director, Water Resources Administration;

(f) Director, Maryland Geologic Survey;

(g) U.S. Geological Survey;

(h) Federal Aviation Administration;

(i) Appropriate Soil Conservation District;

(j) U.S. Army Corp of Engineers; and

(k) State Highway Administration.

(2) A person receiving a copy of the application and supporting information shall be invited to inspect the proposed site and requested to submit comments to the Department within 20 days of receipt of the report.

(3) The Department shall set a date, time, and place for a joint site inspection meeting with interested agencies and the applicant.

(4) When practicable, within 60 days of receipt of a complete Phase I report, the Department shall:

(a) Review the Phase I report for completeness. The Department shall notify the applicant that the Phase I report is complete.

(b) Make a determination with respect to the site. If the Department determines that the site is not suitable for the intended use, the Department shall deny the application. The applicant shall be notified in writing by the Approving Authority, informed of the basis for the denial, and the appeal process. Otherwise the Approving Authority shall advise the applicant in writing of any limitations which the preliminary investigation revealed concerning the use of the site, and of any general recommendations. The applicant shall be advised to proceed with the preparation of a geologic report.

(5) If the Department is unable to complete the review within the established 60-day time schedule, the Department shall notify the applicant in writing within 30 days of receipt of the information and inform the applicant of the anticipated time required to complete the review.

Appendix C-2  
COMAR 26.04.07.14

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26.04.07.14

## **.14 Sanitary Landfills — Rubble Landfills — Phase I.**

A. Permit Application. To obtain a permit required under Regulation .04 of this chapter to construct or operate a rubble landfill, an applicant shall submit 12 copies of a Phase I report which contains the informational requirements specified in Regulation .06B(1)—(9) of this chapter.

### B. Phase I Site Inspection.

(1) Following receipt of the specified number of copies of the required information, the Department shall distribute one copy to each of the persons specified in Regulation .06C(1)(a)—(g) and (i)—(k) of this chapter.

(2) A person receiving a copy of the report shall be requested to submit comments to the Department within 20 days of receipt of the report.

(3) The Department shall set a date, time, and place for a joint site inspection meeting with interested agencies and the applicant.

(4) When practicable, within 60 days following the meeting in §B(3) of this regulation, the Approving Authority shall either deny the permit or determine if:

(a) Sufficient information is available to proceed to the Phase II report;

(b) Revisions to the Phase I report are needed.

(5) If Department is unable to complete the review within the established 60-day time schedule, the Department shall notify the applicant in writing within 30 days of receipt of the information and inform the applicant of the anticipated time required to complete the review.